

What is claimed is:

1. A substrate processing apparatus comprising:
a substrate holder for holding a substrate
5 substantially horizontally and rotating the substrate; and
a processing liquid supply unit for supplying a processing liquid onto a peripheral portion of the substrate which is being rotated in such a manner that the processing liquid is stationary with respect to the substrate.

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2. A substrate processing apparatus according to claim 1, comprising a processing liquid removal unit for removing the processing liquid from the substrate.

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3. A substrate processing apparatus according to claim 2, said processing liquid removal unit sucks the processing liquid on the substrate.

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4. A substrate processing apparatus according to claim 3, said processing liquid removal unit comprises a gas-liquid separator for separating the sucked processing liquid and a gas from each other.

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5. A substrate processing apparatus according to claim 4, comprising a recovery unit for recovering the processing liquid which has been separated by said gas-liquid separator so as to supply the recovered processing liquid to said processing liquid supply unit.

6. A substrate processing apparatus according to
claim 2, comprising a plurality of said processing liquid
supply units.

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7. A substrate processing apparatus according to
claim 6, comprising a plurality of said processing liquid
removal units.

10 8. A substrate processing apparatus according to
claim 1, comprising a purge mechanism for supplying an inert
gas to a surface of the substrate.

15 9. A substrate processing method comprising:
holding a substrate substantially horizontally and
rotating the substrate;

supplying a processing liquid onto a peripheral
portion of the substrate which is being rotated in such a
manner that the processing liquid is stationary with respect
20 to the substrate; and

sucking the processing liquid on the substrate.

10. A substrate processing apparatus comprising:
a substrate holder for holding a substrate
25 substantially horizontally and rotating the substrate; and
a cleaning liquid supply unit having a cleaning
liquid outlet which is oriented from a center of the
substrate toward a peripheral portion of the substrate with

an elevation angle of not more than 45° from a surface of the substrate;

wherein said cleaning liquid supply unit supplies a cleaning liquid to the surface of the substrate at a flow 5 velocity of not less than 0.1 m/s.

11. A substrate processing apparatus according to claim 10, comprising a receiving unit disposed in the same plane as the surface of the substrate and opens toward an 10 area of the substrate where the cleaning liquid is supplied to, the cleaning liquid being received by said receiving unit and recovered through said receiving unit.

12. A substrate processing apparatus according to claim 10, wherein said cleaning liquid supply unit is disposed closely to the surface of the substrate.

13. A substrate processing apparatus according to claim 12, comprising a receiving unit disposed in the same 20 plane as the surface of the substrate and opens toward an area of the substrate where the cleaning liquid is supplied to, the cleaning liquid being received by said receiving unit and recovered through said receiving unit.

25 14. A substrate processing method comprising:
providing a cleaning liquid outlet which is oriented from a center of a substrate toward a peripheral

portion of the substrate with an elevation angle of not more than 45° from a surface of the substrate; and

5 supplying a cleaning liquid at a flow velocity of not less than 0.1 m/s so as to clean at least one of a front surface and a back surface of the substrate which is being rotated.

15. A substrate processing method comprising:

10 supplying a processing liquid to a peripheral portion of a substrate which is being rotated; and

15 supplying a cleaning liquid to an area including the peripheral portion of the substrate which has been processed by the processing liquid so as to remove the processing liquid remaining on the peripheral portion of the substrate, said cleaning liquid being supplied from a cleaning liquid outlet which is oriented from a center of the substrate toward the peripheral portion of the substrate with an elevation angle of not more than 45° from a surface of the substrate.

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16. A substrate processing method according to claim 15, wherein said cleaning liquid is supplied from said cleaning liquid outlet toward the peripheral portion of the substrate in a direction substantially parallel to the surface of the substrate.

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17. A substrate processing method according to claim 16, comprising:

receiving the cleaning liquid by a receiving unit which is disposed in the same plane as the surface of the substrate and opens toward the area of the substrate where the cleaning liquid is supplied to; and

5 recovering the cleaning liquid through said receiving unit.